

Notice of Allowability

Application No.

10/711,486

Examiner

Su C. Kim

Applicant(s)

DUNN ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 2/21/2007.
2. ☒ The allowed claim(s) is/are 1-17 and 24.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

HSIEN-MING LEE
PRIMARY EXAMINER

4/27/07

DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Leslie S. Szivos (Re. 39394) on 4/26/2007.

To the claims

Claim 6, on page 3, line 13, after "- at a pressure of about 1 atmosphere", delete "or greater", insert "or greater than about 1 atmosphere".

Claim 24, on page 6, line 6, after " - - a low temperature oxidation process", insert "at a temperature of about 700°C or less".

Remarks

2. The above change was made as the form of the amendment found in the transmittal document cannot be entered. It is suggested that the applicant alter their transmittal letters and amend past and future applications by updating the status under 37 CFR 1.121 amendment practice.

Allowable Subject Matter

3. Claims 1-17 & 24 are allowed over prior art of the record.

4. Regarding claims 1 & 27, Joseph discloses a method of fabricating a heterobipolar transistor comprising:

forming a pedestal atop a structure 27 & 29 that comprising at least base layer 25 (Fig. 1(h)) located on a surface of a substrate 10 having collector and trench isolation regions 20 (Fig. 1(h)) located therein;

forming an extra base layer over said structure including said pedestal 27 & 29, wherein said extra base layer comprises monocrystalline material 30 (Fig. 1(i)) over the substrate 10 and polycrystalline material 29 over the pedestal 27 (Fig. 1(j)) and said base layer 25 that is located atop said trench isolation regions 20 (Fig. 1(j)), said polycrystalline material over 29 said pedestal 27 (Fig. 1(j)), said polycrystalline material 29 over said pedestal 27 is thinner than the polycrystalline material 25 over said base layer that is located atop said trench isolation regions 20 (Fig. 1(j)).

converting at least said polycrystalline material 29 over said pedestal 27 of said extra base layer into an oxide utilizing a low temperature process 32 (Fig. 1(k))

removing said oxide 32 (Fig. 1(l)) and said pedestal 27 (Fig. 1(p)) from said structure to provide an emitter opening (Fig. 1(p)); and

forming at least a polysilicon emitter 40 (Fig. 1(g)) in said emitter opening.

Joseph fails to teach converting at least said polycrystalline material over said pedestal of said extra base layer into an oxide utilizing a low temperature process that is performed at a temperature of about 700°C or less.

Reasons for Allowance

5. The following is an examiner's statement of reasons for allowance:

After further search and consideration it is determined that the prior art of record neither anticipated nor renders obvious the claimed subject matter of the instant

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application as a whole either taken alone or in combination, in particular, prior art of record does not teach "converting at least said polycrystalline material over said pedestal of said extra base layer into an oxide utilizing a low temperature process that is performed at a temperature of about 700°C or less" as recited in claim 1.

Also, the prior art of record neither anticipated nor renders obvious the claimed subject matter of the instant application as a whole either taken alone or in combination, in particular, prior art of record does not teach "converting at least said polycrystalline material over said oxide pedestal of said extra base layer into an oxide utilizing a low temperature oxidation process at a temperature of about 700°C or less "as recited in claim 24.

Claims 2-17 are also allowed as being directly or indirectly dependent of the allowed base claim(s).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Su C. Kim whose telephone number is (571) 272-5972. The examiner can normally be reached on Monday - Thursday, 9:00AM to 7:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew S. Smith can be reached on (571) 272-1907. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Su C. Kim (4/26/2007)

HSIEN-MING LEE
PRIMARY EXAMINER

4/27/07